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Editorial Department.

The Saratoga Meeting of the American Medical Association.

THE fifty-third annual meeting of the American Medical Association of 1902, at Saratoga Springs, under the able guidance of its President, Dr. John A. Wyeth, of New York, was a notable event in the history of medicine in America. First, because it was the first meeting under the new constitution with all that goes with it, in formulating new ways and means in professional organization; and second, because of the superior excellence of the scientific work of the session by reason of the supervision now enforced in the building of the program, thereby insuring work of practical value and of merited recognition.

Every feature of the meeting seemingly contributed toward making this session a success, viz., the weather, which was all that could be desired, the ample room provided for the general session and for the sections; the well organized hotel service which insured comfort and social possibilities, and last but not least, the very interesting village of Saratoga itself with all its historic memories, geologic wonders and great hotels.

While in numbers of actually registered members, the meeting was not as large as was expected; yet, there was a full program, excellent papers and well organized and valuable discussion. Certainly, he who attended this meeting and was attentive to its deliberations did not go home unprofited, for the practical questions under discussion in all of the sections were such as are met in every day practice, and as such were presented in the light of experience and by men capable of developing and enforcing the helpful facts which are needed as guide-marks by every practitioner in medicine.

The address of President Wyeth was replete with suggestions calculated to develop working force in the reorganizatiion of the Association. The thoughtful and judicious presentation of these suggestions will receive the hearty support of the conscientious physicians who believe in their profession and its honorable and glorious record of the past, its great de-

velopments of the present and its rich possibilities in the future. Of especial importance was the emphatic endorsement of a uniform standard of requirements for the practice of medicine in the various states; the recommendation of full exercise of constitutional authority over the organization and management of the sections; the selection of permanent places of meeting in the several geographical subdivisions of the United States and the thorough scrutiny of such places, in order that all of the requirements may be had for a successful and comfortable place of meeting. The consideration of the needs and necessities of the medical departments, public service of government were thoroughly discussed. A discussion of the necessities of an analysis of the profession as a whole for a consideration of its own needs that it may better fulfill its mission, was timely and worthy of the honorable President. Likewise the discussion of the much abused Code of Ethics and the recommendations for its revision, so that there will be one code for "the National Association and for all of the State organizations represented in the national body." Happily, indeed, and worthily too, were these suggestions received, because they came from a man who stands in the front for all that is honorable, worthy and true in the Code of Ethics. The conclusion of this address typifies the man, and because of the richness of its sentiments, which should be upon the shield of every true follower of medicine, we quote it in full: "In conclusion, I ask this Association to stand for more than the healing art. To labor for the alleviation of suffering and for the restoration of health is a noble avocation: but to teach our fellows how to avoid disaster is a prouder privilege and a higher duty. We should be teachers of men. How better can we protect the public from disease in all of its various forms and insidious processes than by perfecting in every county and in every community an organization which will be ever watchful and insistent upon obedience to the laws relating to public health."

The address on Medicine by Dr. Frank Billings, of Chicago (the President-elect) had for its subject "The Relation of Medical Science to Commerce," and brought in reveiw the varied potent features of the medical sciences which are active factors in the advancement of civilization. The address was a fund and an array of indisputable facts showing that even from a commercial standpoint the world has profited by the advancement of the art and science of medicine; a valuation to commerce not yet fully recognized by the monied interests of the world. Dr. Billings truly says: "Medical science should receive the moral and finanical support of states and municipalities in the employment of the measures which science has proved to be efficacious in modifying, restricting and abolishing infectious diseases. The monied interests of the world should recognize the needs of the medical science, not because that profit or fame may come from it, but because medical science may more readily rid the world of infectious diseases for the sake of humanity."

The address on Surgery was delivered by Dr. Harry H. Sherman, of San Francisco, Cal., and was essentially a technical review of the Surgery of the Heart. It was a valuable contribution containing a resume of the literature of the heart surgery of today and a report of exceedingly interesting experiments in this line of work.

The address on State Medicine—subject "State Medicine Past, Present and Future," was delivered by Dr. J. M. Emmert, of Atlantic, Iowa. This address, historical in cast, reviewed the subject fully, and pointedly called attention to the growth and importance of this great field of preventive medicine, and the brilliant future which seemingly awaits the followers of the golden rule, "of love your neighbor as you do yourself."

The various sections with their excellent programs will be considered in our next issue. The exhibit was not as large as usual, owing to the evident tendency of exhibitors to less and less use this method of appearing before the profession. The exhibitors say the method is all right, but the restrictions as to space and the very high prices asked for space, necessarily restrict and curtail the display on such occasions. Others who have been exhibitors claim the men whom they wish to interest will not pay much attention to the exhibits, while others unceasingly make a practice of collecting samples in such a wholesale manner, so to prostitute the very object of the exhibition. We are disposed to regard the exhibition as a valuable object lesson, and one that should by all means be preserved—every exhibitor is deserving of consideration and when a contract has been made with him, it should be lived up to so that all may share in its object. Excessive fees for space drive many excellent displays away and restrict those who would otherwise gladly contribute toward making the exhibition an object lesson. Every reputable pharmaceutical house is worthy of every consideration, because such exhibitors are not fakirs nor promoters of unworthy objects or schemes. Give the exhibitor his due, and let every one enjoy and profit by his exhibition.

The election of officers for 1903 resulted as follows:

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Treatment of Summer Diarrheas.

THE treatment of summer diarrheas of children implies first a consideration of their causes. Kerley (*Archives of Pediatrics*, June, 1902) says: "Primarily the contents of the intestine are involved and not the intestinal structure, and when serious symptoms appear and lesions develop they are due to the process taking place within the intestine." Treatment is then based on the fact that "we have an infection to deal with, a poisoned child to treat." Kerley says, "We must remove as much of the intestinal contents as is possible by the use of active laxatives; for this purpose every case, whether mild or severe, should be given either castor oil or calomel as soon as it comes under the observation. Castor oil is preferred, and for a child eighteen months of age two teaspoonfuls should be given. If

there is vomiting one grain of calomel in 1-20 to 1-10 gr. doses should be given every fifteen minutes. Indications for repeating the castor oil or calomel are infrequent stools and high temperature. The diet of this period of childhood is largely milk, and regardless of the source of supply, it must be stopped at once, for the reason that it supplies a most favorable putrefactive medium for the growth of pathogenic bacteria to which the illness is due. It does not help one particle in a secure case to reduce the strength of the milk mixture. Neither has the pasteurization nor sterilization the slightest beneficial effect. In fact, heating increases the danger. The breast cases are infrequent, and not, as a rule, severe, and an absence from nursing from twenty-four hours to forty-eight hours is all that is ordinarily required. The mother is instructed to relieve the breast with a borrowed baby or a breast pump at the regular nursing intervals. Cow's milk may have to be discontinued from two or three days to two or three weeks. In exceptional instances for months.

"A substitute diet is, of course, to be selected. A carbohydrate substitute gives best results, because it forms, instead of the putrefactive medium of a milk diet, a fermentative medium which retards the growth of bacteria. For a child one year old a tablespoonful of barley flour boiled for half an hour in a pint of water forms an excellent substitute. This should be given in the same quantity and at the same intervals as the food previously employed. If the substitute diet is to be continued for a longer period it is well to increase its strength and dextrinize it. To vary the taste and make the preparation more palatable liquid beef, chicken or mutton broth may be added in small quantities. The free use of alcohol in any form should be avoided, as it impairs the remaining digestive powers of the child and may cause grave renal complications.

"Fever is usually present in summer diarrhea. The metabolic phenomena of fever being the rapid destruction of the nitrogen-containing tissues, it behooves us to bring about nitrogenous equilibrium. The increase of a proteid diet to any practicable limit will not, in acute fevers accomplish this. To limit the proteid destruction we must turn to the proteid spores; these in the order of their importance, are gelatine carbohydrates and fat. Fat is not borne well by fever patients. Carbohydrates are the ideal proteid-spores; they accomplish a double purpose; by their use we obtain equilibrium, and because their by-products are eliminated chiefly by the lungs, the kidneys are rested.

"The temperature should be reduced by cold water spongings for fifteen minutes, three or four times a day; water may be freely given, but should be boiled. After the temperature has fallen and the stools become normal, the milk diet may be gradually resumed. The increase of milk should be governed by the conditions of the stools.

"Irrigation of the colon is of much service in the cases in which the stools are infrequent and contain much mucus and blood. It is not advisable to irrigate oftener than twice in twenty-four hours. A normal salt solution, lukewarm, from one to two quarts, is usually employed. The rectal tube should be introduced at least nine inches and the bag held not higher than three feet above the abdomen of the child."

Stomach Lavage and Colon Washing in Cholera Infantum.

It is seasonable to consider the summer diarrheas of children which just now are concerning both the city and country practitioner. Fortunately great care is being exercised in the larger cities in enforcing prophylaxis by regularly organized inspection, and also in the numerous relief organizations which take the children from crowded tenements to the seashore and country. Thus is afforded timely relief to the little sufferer, and humane intervention to prevent disease. However, the summer diarrheas are always features of summer practice, and it is well to consider the treatment of these affections and learn of the newer methods which have proven of service within the past few years.

The *Medical World* always alive to the interests of its readers, in the July issue publishes the following helpful suggestions in regard to "Stomach Lavage and Colon Washing in Cholera Infantum:"

"The paucity of medicine which it is possible to administer by the mouth in severe cases makes any other plan of treatment desirable as an adjunct. In absence of other apparatus an ordinary soft rubber catheter may be attached to a small funnel, and the fluid made to flow by alternately raising and lowering the funnel. The fluid should have a temperature of 100 deg., and any of the following solutions may be used: Sodium bi-carbonate, half dram to the pint; sodium chlorid, one dram to the pint; boric acid, half dram to the pint; hydrochloric acid, one part, distilled water 200 parts. This procedure is easily carried out and does not often provoke vomiting; on the contrary, one washing frequently checks the most obstinate vomiting.

"In connection with the lavage, colon washing should be practised by the following method: Place the child on the left side with the hips well elevated. Carry the rectal tube slowly into the colon, and thus balloon the gut as the nozzle advances. Normal salt solution is one of the best, but hydrochloric acid (1:200), resorcin (1:1000), or dilute tannic acid solution are good. The temperature is regulated by the rectal temperature of the child; ice water often is used when high rectal temperature is present, though at other times less extreme temperature would be more suitable.

"This treatment is rational in that it washes out the offending material which act as a nidus for the germs, and it admits of some degree of absorption of fluid to replace that lost by the excessive vomiting. Unless a trained nurse is at hand, few mothers can be induced to introduce the stomach tube, and the physician must personally attend to the treatment. It has proven successful in many hands, and we commend it to trial of our readers."

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We had recently a very pleasant call from J. P. Hoeffel of the Allouez Mineral Spring Co., of Green Bay, Wis. Mr. Hoeffel tells us that Allouez water and products have many friends among the physicians of this section. We feel that he will be pleased to be informed that many physicians have the reciprocal feeling that they have indeed a helpful friend in "Allouez."

The Reviewer's Table.

Books, Reprints, and Instruments for this department, should be sent to the Editors, St. Louis.

AN EXPERIMENTAL AND CLINICAL RESEARCH INTO CERTAIN PROBLEMS RELATING TO SURGICAL OPERATIONS. An essay awarded the Alvarenga prize for 1901 by the College of Physicians of Philadelphia. By Geo. W. Crile, A.M., M.D., Ph. D., Professor of Clinical Surgery, Medical Department, Western Reserve University; Surgeon to St. Alexis Hospital; Associate Surgeon to Lakeside Hospital, Cleveland. Philadelphia, Pa.: J. B. Lippincott Co.

On the first page of the introduction the author says that "while surgical anatomy occupies a conspicuous place in literature, surgical physiology, though almost as important, is all but unknown. Unknown because the physiologic laboratory is a comparatively recent creation, whose important surgical relations are scarcely appreciated." The author then reviews the various modes of investigation and annotation, and shows the minute detail which has been followed out in his work. The work treats of four principal subjects. The first being a consideration of the effect of severing and of mechanically irritating the vagi. In operations upon the neck the question of injuring or removing a portion of this nerve not infrequently arises, and the investigations were carried on with a hope of throwing more light on this question. After reviewing the literature the author relates a large number of cases, both clinical and experimental. "Severing one vagus was attended by comparatively little effect upon either respiration or circulation." . . . "However, on severing both vagi the blood-pressure rose considerably, ran an uneven course, the frequency of the heart's action was much increased and the length of the stroke shortened. Respirations were greatly decreased in frequency, and the amplitude of the respiratory excursion was markedly increased, so that, as nearly as could be estimated, the loss occasioned by the slowing of the respiratory action was about counterbalanced by the increase amplitude of the excursion. The respiratory mechanism was much more affected than the circulatory, and exhibited early signs of exhaustion." The chapter on the effect of intravenous infusion of saline infusions is very interesting and explains why we fail to secure benefit in some surgical cases. He found "in the experiments in which the blood pressure had been lowered by a reasonable hemorrhage above, saline infusion promptly restored the lost pressure. If the pressure had been lowered by the exhaustion of the vasomotor system . . . the infusion would restore the pressure in proportion to the vasomotor exhaustion; that is to say, normal saline solution is effectual in shock in proportion to the impairment of the vasomotor mechanism." The point is well illustrated by a case of a railroad brakeman having both legs crushed above the knees.

The longest chapter of the book deals with physiologic action of cocain and eucain when injected into the tissues. After reviewing the literature very fully the author details a large number of experiments. Spinal

anesthesia is fully considered. The final chapter treats of the effects of temporary closure of the carotid arteries dealing with the deductions from experimental research and the clinical application. This book should be in the library of every surgeon. C. E. B.

A Handbook of Appendicitis. By A. J. Ochsner, M.D., Professor of Clinical Surgery, College of Physicians and Surgeons, Medical Department of the University of Illinois; Surgeon to the Augustana Hospital, etc. Chicago: G. P. Englehard & Co.

This is another of the neat little volumes of the standard monograph series, and is a delightful little book. The author prefaces his work by saying that there is still sufficient new material in the treatment of appendicitis to make it worthy of special consideration. While the pages of the book are comparatively small, and only number 174, yet it very fully reviews the whole subject of appendicitis, beginning with its history and taking up successively a consideration of its history, anatomy, etiology, classification, symptoms and differential diagnosis. This brings us to the most important chapter in the book, viz., the non-operative treatment of appendicitis; on this point the author takes a new position. On the first page of this chapter he says:

"Personally, I can only second the statement made by one of the most experienced men in this country in the surgical treatment of appendicitis, that there are thousands of surgeons who are otherwise competent, i. e., competent to perform the ordinary surgical and gynecological operations, whom he should not think of permitting to open his abdomen in case he personally suffered from an attack of appendicitis. This condition is true, not because it is an especially difficult or dangerous operation, but because it requires an appreciation of the conditions upon which success or failure depend, and this operation can be obtained only by observing good methods."

The operation is simple enough if one will take the pains to learn it, and every town of five thousand inhabitants should have at least one man perfectly competent to do such work. But if there is no such man available, then I would say most emphatically that the patient's chances of recovery are many times greater with proper non-surgical treatment than with an operation. . . I would then say, primarily, that no case of appendicitis should be operated unless a competent surgeon is available. This, of course, does not apply to cases in which a circumscribed abscess has formed which any one can open with safety, provided he has sufficient good judgment not to do anything further."

Besides the absence of a competent surgeon, as defined by the author, he gives his further reasons for pursuing a non-operative method: the fact that the patient may not be able to bear the shock of an operation, or there may be no competent assistance available.

Fourth, the surroundings may be unsuitable, and fifth, the patient or the physician may refuse an operation. For these reasons the author gives considerable space to a description of his non-operative treatment.

This treatment, in brief, consists of withdrawing all food by the stomach. If the patient is vomiting even water is not given, and the stomach is thoroughly washed out. His idea is to give the intestinal tract absolute rest; medicines are given hypodermically, and water and nourishment are given by the rectum. The author considers the advantages of this treatment under three heads:

First, the anatomical location of the appendix is such as to make its elimination from the general abdominal cavity comparatively easy, providing the surrounding structures remain at rest for a time.

Second, under a condition of rest the most important physiological function of the surrounding structures, i. e., the cecum, the omentum and the small intestines consists in surrounding any diseased or injured organ. In case the appendix is in a condition of inflammation, no matter whether this be catarrhal or septic, or whether a fecal concretion is about to be expelled through a perforating ulcer, or whether the appendix be gangrenous, the surrounding structures will at once crowd about this organ and form a perfect barrier against the introduction of septic material into the general peritoneal cavity."

The author says that the pain subsides very soon after the feeding by mouth is prohibited. These points are of explanation in detail, and cases are given to illustrate the author's theory. In fact, it is not simply a theory with the author, but a method of treatment, which he gives a large number of successful cases to substantiate.

In conclusion he says: "There are many other points which recommend this form of treatment. First, it can be employed by any practitioner under all possible circumstances. Second, in case there is any doubt concerning the diagnosis the patient can be observed safely under this method. Third, if no competent surgeon is available the patient's chances for recovery are not reduced by the necessary delay if this method is employed."

All through this chapter the author reviews in detail the surgical treatment of appendicitis. He says: "If a competent surgeon is available, and the other conditions which are necessary to secure success are at hand, then I believe it is always wise to remove a diseased appendix during an acute attack, so long as it can be fairly certain that the infectious material is still within the walls of the appendix."

A chapter on "operative treatment" is fully illustrated by many plates which show the various incisions and other details of operation. Altogether the book is a complete and satisfactory explanation of the subject, both from the standpoint of the isolated general practitioner and the competent surgeon. C. E. B.

Mr. Emile G. Bauer, of 617 Sarah street, has lately taken charge of local affairs for Merck & Co. Mr. Bauer was for some time associated with the Mulford agency in this city, and is popular with the profession. It is always agreeable to be able to toss two bouquets at a single throw, and we have this pleasure in expressing our approval of the Merck-Bauer association.

Original Department.

PAPERS for the Original Department should be in hand one month in advance, and contributed to THE MEDICAL FORTNIGHTLY exclusively. A liberal number of extra copies will be furnished authors, and reprints may be obtained at reasonable rates, if request accompanies the manuscript. Engravings from photographs furnished free.

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Multiple Neuritis.

By Daniel R. Brower, M. D., LL. D.,

CHICAGO,

Professor of Mental and Nervous Diseases, Rush Medical College, Etc., Etc., Etc.

Read at the Chicago meeting of the Tri-State Medical Society, April 4, 1902.

THE diagnosis of multiple neuritis in its classical form is a very simple proposition, but at the bedside there are but few classical cases, so that in this disease, as in many others, errors in diagnosis are not infrequent, and as the prognosis of multiple neuritis is usually favorable under proper treatment, and the prognosis of the diseases with which it is usually confounded is very bad, a correct diagnosis is a matter of great importance. The disease is the result of some kind of poison, and while the action of this agent may be limited to the peripheral portion of the neurons, yet there are cases in which the cell body as well is impaired, and this also creates confusion in diagnosis. The principal poisons producing a multiple peripheral neuritis are alcohol, lead, arsenic, and the toxins of the micro-organisms, especially those that produce diphtheria, influenza, typhoid fever, gonorrhea, syphilis, leprosy and beri beri.

In the typical cases of multiple neuritis we have a symmetrical localization of motor, sensory and vasomotor symptoms. In earlier stages the symptoms are the result of irritation of the nerve, while the later symptoms are those of destruction. Thus we have in the beginning muscular cramps and spasms shooting pains and paraesthesia. Later on paralysis and anesthesia. If all the cases were thus characterized, there would never be any difficulty in diagnosis, but, unfortunately, in some cases the motor phenomena dominate or stand alone; in other cases the sensory symptoms are equally prominent, and are associated with a very small amount of

muscular weakness; while in still other cases the vasomotor phenomena eclipse the other symptoms. As examples of the distinctly motor type, we have lead paralysis, Landry's paralysis, and tetany. Of the sensory type, pseudo-tabes and leprosy. Of the vasomotor type, erythromelalgia and Reynaud's disease.

The common form of multiple neuritis is that which has its etiology in alcoholism, and this ordinarily presents to us the mixed type, the type in which the motor, sensory and vasomotor parts are each more or less involved. The diagnosis of alcoholic neuritis will be based upon the evidences of chronic alcoholic poisoning, found in the digestive, circulatory and nervous systems. The onset is usually insidious; weeks or months being necessary for its full development; the earlier symptoms are numbness, tingling, muscular cramps, tremors and vasomotor disturbances, such as either cold and clammy hands or feet, or a hot and burning sensation in the same extremities. Progression of the disease is characterized by more intense pains and nerve and muscular tenderness on pressure, followed by cutaneous anesthesia, and we have frequently this anesthesia with muscular hyperesthesia. The paralysis that soon results is a quadriplegia, with foot-drop and wrist-drop. In the earlier stages knee-jerk is often exaggerated, and there is hyper-extension of the great toes, but these soon disappear, and patellar reflex is lost and the toes become flexed. With this paralysis there is a progressive atrophy; the muscles soon lose, in pronounced cases, reaction to faradism, and they require strong interrupted galvanic currents to produce contraction. The very early appearance of these electrical reactions within a week or ten days are a valuable aid to the differentiation of multiple neuritis from anterior poliomyelitis, in which latter disease these electrical reactions are established only after a much greater interval of time. The escape of the muscles of the trunk in all the ordinary cases, and the control the patient has over the sphincters, of the bladder and rectum, are valuable aids in differentiation from myelitis.

In a few cases there is a very marked psychic disturbance, which may be either in the way of exaltation or depression, both alike accompanied with marked failure in memory. These psychic symptoms are probably as much a part of the general alcoholism as they are of the special manifestations of the neuritis.

Arsenical neuritis very much resembles alcoholic neuritis. It is a very rare form of the disease in my experience. The differentiation from alcoholic neuritis was made in the few cases I have seen by the absence of any evidences of alcoholism, by the edema of the eyelids, pigmentation, the epigastric pain and the nausea. These cases were the result of the continued use of large doses of Fowler's solution, and in these cases the tremors were more marked than in alcoholic neuritis, and the knee-jerks and typical reflexes were present. Some cases are the result of a combined action of alcohol and arsenic, as witness the remarkable epidemic that occurred in Manchester, England, in 1900 from beer. The source of arsenic was traced to sugar used in brewing (Journal A. M. A., January 26, 1901). Another good example of the mixed type of multiple neuritis is beri beri,

and the intimate association which this country now has with the Oriental peoples where this disease is by no means uncommon makes it quite necessary for the physician to be familiar with its general aspect. It is a specific form, the precise poison producing it being still in doubt. Recent investigation by Ross (British Medical Journal, Feb. 8, 1902) would seem to indicate that arsenic may be the principal etiologic factor, although hitherto it has been regarded as microbic. It is characterized by edema of connective tissue, effusion in the serous cavities, the special liability to complication of the phrenic and pneumogastric nerves. There is usually a prodromal stage of several days or weeks, with general malaise, depression of spirits, headache, numbness, stiffness, cramps of legs, edema of the ankles, diarrhea, and usually a slight fever. These symptoms sometimes come on with great rapidity, the patient going to bed well, and waking up in the morning unable to walk or stand. The edema of the legs increases, the hands and the face become puffy, the paralysis develops, knee-jerks are abolished, palpitation and cardiac dyspnea become marked, and the urine is much diminished. After a variable space of time, the renal secretion becomes abundant, the edema disappears, and then the legs and arms have been found to have undergone a marked atrophy.

An example of the motor type of neuritis is found in lead palsy, of which there are two common types, characterized, the one by the lower arm symptoms (wrist-drop), and the other, not near so common, the upper arm type. Lead as an etiologic factor in producing disturbances of the nervous system is a much more common one than many suppose. In cities like Chicago, where in the homes of many of our citizens the water supply is in some part of the day deficient, the pipes in fact may be empty of water, and then become encrusted with oxide of lead, and just as soon as the increased pressure fills up the pipes again, and water is drawn, particles of lead are detached and pass into the drinking vessel, and thus enter the bodies of the patients, and while we have in the blue line on the gums when present an excellnet means of differentiation, yet we have many cases of lead poisoning in which this blue line is absent.

Another example of the motor type of neuritis is Landry's paralysis. This disease in its typical form has sensation intact and sphincters uninvolved. The rapid advancing paralysis, beginning in the legs and extending upwards, presents such a striking clinical picture that an error in diagnosis is rarely possible. In the slowly progressing cases in which there is numbness and some pain, and some paresthesia, still greater difficulty will be experienced in making a diagnosis.

Another form of the motor type of neuritis is tetany, and the one in which there should be but little difficulty in differentiation. The irritability of the nerves to the electrical currents, and to pressure, and the easy development of the spasms of the hands and feet by pressure over these nerve trunks, and by percussion over these nerve trunks make such a picture that can rarely be mistaken for any other disease. A good example of the vasomotor type of multiple neuritis, and one in my experience by no means uncommon, is erythromelalgia. Sensory symptoms are here present, sometimes to a very marked degree, but it must be by the redness of

the skin of the feet that the diagnosis is made. It is a neuritis that is usually limited to the plantar nerve, and is multiple in that it usually involves both feet.

Treatment.—The treatment of these several forms of neuritis have in common, rest, the relief of pain and insomnia, the use, in the early stages, of the constant galvanic current of low amperage, anode applied daily to the nerve trunks involved, attention to elimination by skin, bowels and kidneys. The several etiological factors give indications of treatment; the alcoholics require the bromides, with codeine in such doses as necessary to secure a reasonable degree of comfort, and the use of nerve tonics, of which strychnia is the most serviceable. In alcoholic neuritis it is absolutely necessary to withdraw at once and completely the alcoholic stimulants. In the treatment of beri beri, it is the opinion of the physicians who have had much experience with the disease, that the patient must be moved from the locality where the disease was contracted, and have absolute rest in bed, mild laxatives, diuretics. tonics, and anodynes, when cardiac failure seems imminent, strychnia and nitroglycerine hypodermically have given the best results.

After the acute stage of these several forms of multiple neuritis has passed, the patients all alike require vigorous restorative treatment. The hemoglobinometer will show the most of them to be markedly anemic, and to relieve this of course some preparation of iron must be used. My experience with the various recent preparations of iron has not in the least diminished my confidence in Blaud's mass, which received at the hands of Niemeyer so many years ago such warm endorsement. With iron may be combined quinine. The diet throughout the case must be carefully regulated to suit the digestive condition of the patient. They all need a very liberal diet, but it must be carefully proportioned to their capacity, so as to avoid a possibility of autointoxication by the abdominal tract. So soon as the acute pain has disappeared, the use of the galvanic current of a proper amperage, interrupted so as to produce muscular contraction, is indicated. The seances should be short; not more than three or four contractions of each group of muscles by a current of the least possible amperage should be made daily. This exercise of the atrophied muscles will ordinarily result in their slow redevelopment, and after a time they will respond to the faradic current, and then it should be substituted. Gentle massage should be commenced at the same time the electrical exercise of the muscles begins—and the severity of this treatment should be increased as the muscular soreness subsides. There is nothing mysterious about massage, and any one of ordinary intelligence can soon be taught to do it properly. Much benefit may be had by the hypodermic use of strychnia, a daily injection beginning with one-sixtieth and gradually increasing it to a full physiological dose. If the case does not yield, hypodermic injections of the chloride of gold and sodium, gr. 1-24, may be added to the daily treatment. As soon as possible, the patient must be encouraged to make voluntary muscular movements, frequently and to the utmost extent possible. Many of these cases of multiple neuritis in the beginning of the

treatment are very discouraging, and the physician is apt to give them up as hopeless cases too soon. Some of the most satisafctory results that I have had have been in these cases of long standing neuritis abandoned by physicians as incurable.

A Case of Prenatal Syphilis.

By A. H. Ohmann-Dumesnil, M. D.,

ST. LOUIS.

Read before the Tri-State Medical Society at Chicago, April 4, 1902.

BEFORE entering into a recital of the case which forms the basis of this paper, it may not be inopportune to give a short foreword in the choice of the term which appears in the title. The writer has a preference for the word prenatal, because it is clearer, more comprehensive and defines better the condition which exists and which has been variously called at different times and by different authors. A short analysis of some of these terms may not be uninteretsing, and added thereto, a justification of the term used here will, no doubt, prove more satisfactory to the writer as well as to others.

In the first place, the term hereditary syphilis has been, and still is employed by syphilographers and general writers in medicine, and, if we face the matter in a purely logical way, it must be acknowledged that the term is both illogical and unsatisfactory. It may be argued that the disease is derived from the father or the mother, but it cannot be forcefully contended that it is hereditary on this account. It is not a heritage, but rather a transmission by easily understood means. I will not enter here into a prolonged discussion of this question, which in itself alone would fill a volume. The contention which I wish to establish is, that what is called a disease, cannot be transmitted by heritage, and, hence, the term "hereditary" is a misnomer. From whom does a child inherit syphilis? The father is syphilitic and infects the mother. The child is born with syphilis. Does it inherit from the father or mother? If from the father, why is Colle's law exemplified so often (of course there are some exceptions, but they are few and far between)? If from the mother, why does a mother acquire syphilitic lesions from her child? I merely throw out these hints to give some food for thought.

In the second place, the term congenital syphilis is entirely inadequate to express what a great many authors intend to convey. The very meaning of the term, when looked into, implies a condition which is observed at birth, and we are forced to think that unless otherwise specified, cases of congenital syphilis are acquired by the child by direct inoculation in its passage through the maternal parts. I have had opportunity to observe such cases, and a careful search has always revealed the initial lesion or chancre. The evolution of the disease was classic, and the absence of bullae or vesicular eruptions, confirmed the diagnosis of acquired syphilis. An examination of the mother revealed the presence of lesions of re-

cent date and of undoubted infectious character. Nothing could be more convincing so far as establishing the origin of the syphilis.

In the third place, the term prenatal syphilis which I desire to establish, gives us a more accurate idea of the trouble with which we are confronted. As is clearly indicated by the defining word, the disease is acquired before birth and does away with the term congenital. It is not simultaneous with birth, but before it, and it presents symptoms totally dissimilar to any we will acknowledge from personal experience, or will find in standard works written by authorities on the subject. The term also eliminates "hereditary," which, at best, is but a misnomer and not susceptible to logical investigation. In fact, it is today a remains of the dark ages of syphilography. There is no doubt in my mind that the day is not far off when it will be completely endorsed by those who have seriously thought upon the matter. I know that the suggestion which I make is to establish habits and methods, but it is always in order to suggest something which is more logical, and, at the same time, more in accord with progressive ideas.

Of course, the subject is worthy of fuller consideration, but the limitation of time forces me to enter into the consideration of a case that offers a few interesting points, and in order to introduce it, I will first relate a history furnished to me at the St. Louis City Hospital, where I observed it. The history is as follows:

Alice G., school girl, aged 15, single, was admitted to the hospital June 9, 1901. Has been going to school since nine years of age. Habits good, appetite good, sleeps well, bowels regular.

Family history: Father living, mother dead; cause unknown. Two half-sisters living, ages 4 and 2 years respectively; both healthy.

Previous diseases: measles.

Present disease: Had sore eyes when very small. About four years ago her left arm began to swell at site of vaccination and was painful. It stayed swollen for about two years. She was kicked on left leg on shin, and the leg began to swell and was painful. The right arm now began to swell at the elbow, then the right leg; both were painful. She hit her right shin against the step and it became sore, and a good deal of foul-smelling matter ran out of it. Has never had headache. The left inferior maxillary is swollen.

Present condition: The patient is poorly nourished and looks small for her age. She has the Hutchinson teeth; the left cornea is cloudy, the iris has lymph markings obliterated, pupils contracted, discolored areola in iris around pupils. Atropin does not dilate the left pupil, but dilates the right. The left arm is well, the right elbow is ankylosed, left leg is swollen, tibia enlarged—the ten-pin leg. There is a foul-smelling ulcer on the shin about the middle; it is surrouned by a red areola and the probe shows the ulcer to be shallow with dead bone at the bottom. The right tibia is also enlarged and "sabre-blade" nodes are found at the costo-chondral junctions.

Urine: Specific gravity 1027; amber-color, clear, slight sediment; albumin and sugar negative; no casts.

Diagnosis: Lues, congenital.

Treatment: Patient put on bichloride, one-twentieth grain and K I. five grains (increasing) three times a day after meals. Bichloride bath and dusted with calomel; blue ointment on legs. On June 12 the odor had disappeared; treatment was continued.

June 15, patient eats and sleeps well; sore looks better. Inunctions discontinued for two days.

July 1. Patient improving very slightly; bone necrosed, but not separated; ulcer about same size.

July 9. Improving very slightly; ulcer painful and about same size; right side of neck slightly swollen.

July 18. Ulcer healing. On July 10 a distinct enlargement of the parotids and right submaxillary glands was noted. The internal administration of mercury was discontinued and two days later the inunctions were discontinued. The glands have resumed their normal size and the gums less reddened. Inunctions will be resumed tomorrow and twenty grains K I. internally will be continued.

July 23. Patient again put on the mixed treatment, with inunctions; ulcer healing. It is becoming smaller and the necrotic portion of the bone has not separated. Treatment continued.

August 14. Patient is bright, has good appetite, there is no evidence of salivation or iodism. There is slight effusion into left knee, but this is subsiding.

August 15. Patient has been having moist chloride pack on leg; changed today to dry iodoform.

This method of treatment in general was kept up until the patient was discharged at the request of her father. Since that time she has been lost sight of. It must not be forgotten that the necrosed portion of bone did not separate, although a sequestrum was expected to be ready for removal in a short time. The entire osseous system of the girl was in a very bad shape. Her teeth were in bad condition, as may be seen by the models presented. The center incisors were typical Hutchinson teeth and there were some that were small and stunted. The case, taken as a whole, is a classic one of prenatal syphilis. The mental condition of the girl was infantile. She was feeble-minded and her physical development was below par. She had not yet begun to menstruate, there was no indication of mammae, the hair on the pudenda was limited to a few straggling ones. It is not often that we are afforded such an opportunity to observe a case presenting so many typical signs of this disease. As a rule treatment is sought at a much earlier age, and it is not permitted to progress so far. More or less anxiety is manifested by the parents or care-takers, and clinics are so numerous that it is a comparatively easy matter to obtain medical advice and treatment gratis; so that, the total neglect of a case of this sort shows the carelessness which has been exercised, and further accounts for the severity of the process as observed.

An interesting point in connection with the case, is the fact that two healthy half-sisters are living. This leads most naturally to the thought that the one under consideration is affected with the so-called late heredi-

tary syphilis of Fournier; and that the other children will show manifestations of this peculiar variety, if permitted to go untreated. Not having had an opportunity of speaking with the father, or of examining the children, it is impossible to draw deductions on this point.

Such is the brief history of a case which is full of interest, and which more carefully collated notes on the part of the hospital interne would have made more valuable for reference. I am very sorry that there was want of exactness on this particular point. From the patient herself there was little to be expected, and no one of her relatives seemed to take enough interest in her to even inquire concerning her condition. The probabilities are that she will return to the hospital some time in the future, and then her complete history will be available.

Tetanilla.

John W. Hanna, M. D.,

WINFIELD, IOWA.

Read before the Tri-State Medical Society, at Chicago, April 3, 1902.

THIS disease is very rare. So rare in fact that I am convinced that many busy physicians during a long professional life do not meet with it at all. I have practiced medicine for near thirty years, and yet have seen but one case, and that occurred in my own practice. An eminent neurologist told me that he had seen but five cases in all. It would appear, therefore, unwise to use any of the time of this convention in discussing a disease so rarely met with. Yet your next case may be one of this character, and I assure you, should such be the truth you need all the information obtainable to enable you to handle your patient with any degree of success or satisfaction to the patient.

Tetanilla, or little tetanus, sometimes called tetany, idiopathic, muscular spasm, idiopathic contraction and paralysis, etc. It is a name originating with Carvisant, and is applied to a peculiar neurosis, characterized mainly by paroxysmal tonic convulsion in certain groups of muscles. Authors tell us that the disease attacks by preference children and young adults between fifteen and thirty years of age, yet I am inclined to the belief that there are many exceptions, and the disease may attack persons of any age. I am convinced that the cause or causes producing tetanilla are not well understood. Many supposed causes are mentioned, among which are catching cold, as a sequel of acute diseases, such as typhoid fever, smallpox, and intestinal disturbances. I am of the belief that we will have to look almost wholly into the latter named for the cause. Now as to whether this disease has a special or distinct form of bacilla, I do not know. It is presumed that it has. One or two bacteriologists have claimed to have made the discovery. However, I am prone to think the field still open to investigation.

On June 11th, 1901, Mr. J. T. P., aged 55, a farmer, consulted me at my office. He was complaining of a stiffness of the jaws, and an inability to masticate satisfactorily, and some difficulty in swallowing. There were marked facial paralysis. No tubercular or specific disease appeared in the family history.

Parents died in middle life from acute disease of a febrile character, probably typhoid. The patient had been a hard working successful farmer of more than ordinary intelligence. No history of rheumatism, traumatism, abscess or pyemia.

However there was history of considerable digestive disturbance. My diagnosis at first was peripheral facial paralysis, yet at a loss to arrive at the causes producing the same, as there was no apparent organic lesion situated in the cranial cavity, as basilar meningitis, tumors or syphilitic lesions in this situation. I at once began electrical treatment, having the patient visit the office daily, which he was able to do for about ten days, when he became unable to do so. I used faradic, galvanic and static electricity without the slightest benefit, the patient growing worse day by day. In the course of a week he began to show slight spasms of the upper extremities, and a marked rigidity of the muscles, making passive movements impossible. The tonic spasms soon extended to the entire system, involving first one group of muscles and then another. The calf muscles being particularly the seat of tonic contractions. This could be relived by rubbing with alcohol, which had to be done 100 times a day more or less. In about three weeks the teeth were firmly closed. I gave him bromides and chloral, also morphine and hyoscamine hypodermically without relief, except temporarily, One thing perplexing at this time, the facial paralysis had apparently entirely disappeared, yet his jaws were so firmly set that his teeth could not be forced apart. The weather was hot. He required his watchers, four in number being necessary to fan him continuously, whether necessary or not. To feed him was now the serious problem. I gave him food enemas, of milk, eggs, etc., but such a method was not a success, and my patient was gradually passing away, as I then believed. I was up a stump. No local medical talent was able to enlighten me as to what I had to deal with, and I was at sea myself. I called Dr. Sanger Brown, of Chicago, to see the case. I can not speak in terms too laudatory of this eminent neurologist. He informed me that I was treating or trying to do so, a case of tetanilla. Then I did just what many of you have done since seeing my subject in this program, consulted the textbook to see what in thunder is tetanilla. I fed Mr. P. for three weeks twice a day a quart of milk, adding to it such drugs that were indicated. This I did through the nose with a common stomach tube. I will remark here that this is not a difficult thing to do, only being careful that your tube does not pass down the trachea instead of the esophagus. I could get no apparent good result from the use of any drug, except one little combination, calomel $\frac{1}{8}$ gr., ipecac 1-12, sod. bicar. $\frac{1}{2}$ gr. When I gave six of these tablets daily he showed improvement When I gave less he seemed worse, so I gave them every day to the end of my treatment, which came in about three months from the beginning. The calomel kept

the bowels open nicely. It was necessary to use the catheter for about one week.

Although for the most part he voided his urine in a very sluggish manner. One peculiar feature of his case, was that a strange face would excite a spasm, as in tetanus. During convalescence he would have to place his hands over his eyes while sitting on the porch when teams would pass by. If he did not he would have a spasm. At no time during his sickness did his temperature go above 100. He made a complete recovery, went about his business as before, although did not do hard farm work.

I regret to state, however, that my patient died of pneumonia on the 18th of last month; fearing that his trouble might return he sold his interest in Iowa and moved to Oklahoma City on March 3d, hoping that a change of climate might prove beneficial. The exposure incident to removal was too much for him. He contracted a severe cold, which soon developed a fatal pneumonia. I am told that during his final illness that all of the features of tetanilla returned in an aggravated form, although being for four months entirely free from any symptom of the disease. Frequent examinations of the urine at no time showed any trace of albumen or sugar. I attribute my success in his case to the persistent use of small doses of calomel, which demonstrated so beautifully and unmistakably its intestinal antiseptic quality, at the same time nicely stimulating the ilver to perform its function more actively. I wish also to strongly recommend alcohol used locally in a generous manner as an excellent local stimulant, and for the relief obtained for the patient, for which he freely expressed gratitude. With generous feeding and the aforementioned treatment you will likely save your patient, should you ever have one of this character, which I sincerely trust you may not.

DISCUSSION.

Dr. H. C. Anderson (Chicago).—Mr. President, will you kindly ask Dr. Hanna to define "tetanilla?" I confess that I am quite ignorant of what the disease is.

Dr. J. W. Hanna.—The definition to tetanilla was given in my paper, but I will gladly define it again. It is otherwise known as tetany. The name tetanilla originated with Carvisant, and is applied to a peculiar neurosis with paroxysmal, tonic convulsions in certain groups of muscles.

Dr. W. A. Tichenor (Chicago).—I know but little of this disease, but I am at a loss, and would like to ask Dr. Hanna how he could have a case with paralysis in the parts, and tetanus at the same time; how paralysis of the muscles could occur and active contractions at the same time?

Dr. Alfred Roulet (St. Louis, Mo.).—In his paper Dr. Hanna spoke of the danger of introducing the stomach-tube into the trachea. I have used the stomach-tube considerably both in hospital work and private practice and have taken no particular pains to avoid the trachea, and I have never either seen or heard of a case where this accident has occurred. I know that it is customary among writers on this subject to mention this as one of the dangers to be guarded against, but they do not, as a rule,

report cases where such an accident has actually occurred. I believe the fear of this complication arises principally from an imperfect notion of the anatomic relations of the parts concerned, and I am convinced that it is based more on theory than on reality.

Dr. W. A. Tichenor (Chicago).—I would like to say just a few words on the subject of feeding the patient through the stomach-tube. For at least eight years, and, I might say longer, I was what is called a "lunatic doctor." During that time we had many patients who would not eat, and it therefore became necessary to feed these through the stomach-tube, and I can safely say that I averaged feeding at least one patient a day in this manner. In all that time I never introduced a tube into the trachea, and if one should be introduced by accident and a drop of the fluid went in the trachea, the patient would let you know it, for he would be seized with an uncontrollable fit of coughing.

Dr. C. E. Paddock (Chicago).—Contrary to Dr. Van Hoosen I think Dr. Hanna was fortunate to have his patient out in the country away from the specialists. I think that oftentimes the country doctor treats his patients much more scientifically where he relies upon himself, than he would if bothered by a number of specialists and changing his treatment from day to day and giving no treatment a fair trial. In many instances I think a doctor is very fortunate in being in the country and not having his treatment changed by specialists.

Dr. H. A. Leipziger (Burlintgon, Ia.).—Being from Iowa, as is the reader of the paper, I agree with the last speaker that Dr. Hanna was fortunate in not being advised by specialists in the treatment of his rare case, because one of the eminent specialists from Chicago, after hearing the paper, wanted a definition of the disease, and the doctor from Iowa had to define it for him. It is at least interesting to know that we can bring something to Chicago once in a while that the Chicago specialists know nothing about.

Dr. J. W. Hanna.—I am thankful that my paper attracted some attention, and will say for Dr. Tichenor's information, that in my paper I said that I did not at first know what I had to deal with, but my first diagnosis was partial facial paralysis. It was a most peculiar case and one that would give a man a nightmare.

For Dr. Andersen's benefit will relate that it is a favorite pastime of myself and a partner of mine who shares my office with me, to ask in a most serious way of doctors we meet, what is their method of treating tetanilla. They always ask, "What is tetanilla?"

In relation to the stomach-tube I would say that I am inclined to think that the stomach-tube is not very frequently used through the nose of the patients of some of these men who differ from me. I do believe that it is possible to pass a tube down into the trachea, I do think it could be forced down into it, and I know that in passing the tube as I did, at least one hundred times with my patient, I had to be very careful, or he would suddenly spring into the air, exhibiting all the signs of suffocation. I would say further, in regard to specialists, that I would not have known what the case was myself had I not called Dr. Sanger Brown.

Cholecystectomy versus Removal of the Mucous Membrane of the Gall Bladder.

By Emil Ries, M. D.,

CHICAGO.

Read before the Tri-State Medical Society at Chicago, April 4, 1902.

IN the development of surgical work on gall stones in the gall bladder, three epochs have been passed through which may be differentiated by the principles dominating the operator's mind and guiding his hand. The first epoch was characterized by the idea that these stones themselves are the cause of all the trouble, and, therefore, their removal alone was the aim of the operation, and the sooner the gall bladder was closed, the more successful the operation was thought to be. Cholecystendysis, the so-called ideal operation, seemed to fulfill the requirements; today it is practically abandoned. It soon became clear that there was a second factor of supreme dignity in the pathology of cholelithiasis—the diseased mucous membrane of the bile tract.

Cholecystostomy, the operation of opening the gall bladder and leaving it opening for the purpose of drainage and local treatment of the gall bladder and ducts then was considered the supreme remedy. As, however, the reports of biliary and mucus fistulae, of stones overlooked or reformed, of strictures and inflammatory processes accumulated, a further step was taken and the removal of the entire gall bladder with the cystic duct, or cholecystectomy, entered into competition with the older methods.

The removal of the gall bladder is, as a rule, neither a difficult nor a dangerous operation. Kehr[1], for instance, who has probably done more cholecystectomies than anybody else, reports in over 100 operations of this kind, a mortality of about 3 per cent; he has frequently performed the operation in one-half hour. He declares that he is performing this operation at present more frequently than any other gall stone operation, and that he is better satisfied with the remote results from this procedure than from any other rival operation. This latest and most radical operation on the gall bladder is, of course, unanimously recommended by all surgeons, in cases where the gall bladder is the seat of malignant, or such acute inflammatory or necrosing processes as make its preservation an impossibility. In cases of chronic inflammation, however, where the gall bladder is thickened, where it is small, where it may or may not contain stones or sand, where it is adherent to neighboring organs, cholecystectomy is only one of several operations that will come under consideration.

We do not think that cholecystenterostomy, the formation of an anastomosis between the gall bladder and some convenient portion of the bowel, is to be discussed here as a competing operation, because this procedure is often difficult of performance in this particular instance and appears uncertain in its outcome because it would seem to favor infection of the bile tract. Two other methods, however, have attracted considerable attention in the treatment of these contracted gall bladders. One, the

drainage by a tube inserted into the gall bladder and made water-tight after suturing the gall bladder opening around it (Kehr[1], Poppert, Mayo[2]), and the other, Mayo's method[2] [3] of removal of the mucous membrane of the gall bladder.

The first operation of the water-tight insertion of a rubber tube into the gall bladder is good enough in an emergency, if the operation is a tedious one on account of complications, adhesions, etc., but just in such cases secondary operations are quite frequently required. Mayo[3] describes this condition most admirably in the following words: "After the removal of the external drainage, the thickened walls of the gall bladder continue to contract, interfering with the drainage through the ducts from the islands of mucous membrane not previously destroyed, and a condition results resembling a chronic appendicitis in many aspects." He recommends cholecystectomy in such cases, and therein agrees with the majority of surgeons. Mayo[2] offers as a substitute for the cholecystectomy, the removal of the mucous membrane of the gall bladder. "Especially," says he, "is it as a secondary operation that the removal of the mucous membrane is most serviceable; that is to say, where a cholecystostomy has been performed without accomplishing the desired results."

This removal of the mucous membrane, according to Mayo, is done by pulling it from the underlying tissues, and is said to be easily performed. The hemorrhage is insignificant, and requires at the worst, one or two ligatures, or the twisting of some small vessel. After the removal of the mucous membrane, the cystic duct is ligated and drainage is carried down through the remaining muscular and connective tissue coats of the gall bladder to the stump of the cystic duct. Mayo and others have performed the operation with good results.

Some observations on the surgical pathology of the gall bladder which I have made recently, have convinced me that this operation of removal of the mucous membrane of the gall bladder, is subject to serious objections which I think ought not to be overlooked. The case on which these observations have been made, is the following:

Mrs. L., 45 years old, has passed gall stones several times. First, eighteen years ago, then two years ago, then for several months before I operated. The stones have been from the size of a hazel nut down to very small concretions. She has never had jaundice, but severe colics have preceded the passage of stones every time. For the past two years the patient has not been entirely free from pain at any time. She was not jaundiced when I first saw her. The region of the gall bladder was painful on pressure; otherwise, examination had negative result.

The operation revealed a small, hard gall bladder low down, adherent to the omentum, colon and duodenum near the pylorus. It was dissected out from its adhesions and from the liver, the cystic duct tied off with catgut close to the common duct and the gall bladder was removed. On opening it, five small stones and a quantity of sand were discovered in the gall bladder. The cystic duct was closed by inversion of its walls, a piece of omentum was sutured over the stump and a strip of gauze passed

down to the stump. After covering all raw surfaces on the bowel by seroserous sutures, the abdomen was closed, with the exception of a small opening through which the gauze was permitted to protrude. The patient made a good recovery and left the hospital eighteen days after the operation in very good health and the wound closed with the exception of a very small, granulating portion of the skin, which has closed since. The operation was done in January of this year and I have heard of the patient since that; she is in excellent health.

The most important feature of the case was the examination of the removed gall bladder. The wall of the gall bladder was six millimeters thick. Of this, about one millimeter is muscular coat and mucous membrane; the rest is connective cicatricial tissue and serous coat. The thickness of the muscular coat is about four times that of the mucous membrane. The mucous membrane is covered with the normal columnar epithelium of the gall bladder and the glands of the mucous membrane show secreting epithelium. Between the glands of the mucous membrane, foci of round cell infiltration are to be seen which penetrate the muscular coat following the blood vessels. The most important finding concerning the glands is that they penetrate the muscular coat so that their fundus appears beyond the external surface of the muscular coat and is imbedded in the connective tissue of the subserous portion. These glands are invested with apparently perfectly normal columnar epithelium; there is no multiplication of layers, there is no atypical arrangement and there is no metaplasia of the cells. The subserous, thickened, cicatricial tissue contains occasional foci of round cell infiltration, but these remnants of inflammation are few and far between. The serous coat presents nothing abnormal.

Leaving out of consideration all other features of this pathologic condition, the most important observations have been made on the glandular elements of this gall bladder. We find that the glands, instead of being confined to the mucous membrane, penetrate the muscular layer and appear between this and the serosa. We have to deal with abnormal growth of the glands as we see it occasionally also in other organs composed of mucous membrane and muscular wall, as for instance, the uterus, tube, stomach. It is not too much to say that here is morphologically the connecting link between the benign hypertrophy and the malignant, destructive growth.

Now as to the surgical significance of the case, it is very evident that in attempting to remove the mucous membrane of this gall bladder, an operator would undoubtedly have removed muscularis with the mucosa, so that in attempting the removal of the mucosa alone, he would have removed more than he intended to remove. Furthermore, it is evident that if instead of removing the whole gall bladder, Mayo's operation of removing the mucous membrane alone had been performed, glandular elements would have been left behind in the remaining wall of the gall bladder and what would have been the outcome? The outcome would have been just what Mayo correctly describes, as above quoted: "Islands of mucous membrane not destroyed by the operation, would have continued

to secrete; a condition much resembling chronic appendicitis" would have been created artificially and the result of the operation would probably have been a disappointment.

It is perfectly true that in the operations performed by Mayo and others, no bad results have been reported, but the time during which this operation has been done is short, and the number of cases is not large as yet. On the other hand, we have most excellent clinical and experimental evidence with which to support our contention that the danger from such remaining glands is more than imaginary or theoretical. First of all, we know by the experiments of Oddi[4] and those of Voogt[5] that after the removal of the gall bladder, the remaining mucous membrane of the cystic duct grows abundantly so as to give rise to a sort of a new gall bladder, and the mucous membrane of the cystic duct is genetically and histologically the same as that of the gall bladder. Therefore, remnants of glands left behind might give rise to cystic formations. Second, unintentionally similar experiments have been made clinically on an organ constructed on similar lines—the uterus. It has been observed here, that after unwise curettement of the uterus, part of the uterus became obliterated, proving what destruction of mucous membrane in that part of the uterus would do; while behind the destruction a hydrometra formed, the contents being produced by the patches, or islands of mucous membrane reproduced from the ends of glands left in the depth between the muscular fibers in the same way as a pulling off of the mucous membrane of the gall bladder would have done in the above case. In the course of severe inflammatory processes of the uterine mucosa, a similar result has been observed after partial necrotic destruction of the mucous membrane.

We therefore have to take into account the possibility of the formation of a retention tumor in the remnant of the gall bladder, after apparently complete removal of the mucous membrane. Such a retention tumor would have the same pathology and clinical dignity as a hydrops of the gall bladder, due to stricture of the cystic duct, a condition that is best treated by cholecystectomy.

My conclusion, therefore, is that the removal of the mucous membrane of the gall bladder is a step in the wrong direction, and ought to be abandoned in favor of the more radical, more reliable and hardly more dangerous cholecystectomy.

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100 State Street.

DISCUSSION.

Dr. Emory Lanphear (St. Louis).—Mr. Chairman, Members of the Society: I am very much interested in the paper presented by Dr. Ries, for the reason that it touches upon a field of surgery that is as yet unsatisfactory to most of the operators. It has often been said, and Dr. Ries

has also said it in his opening speech, that gall bladder surgery is practically the easiest of all abdominal surgery. I think when you attempt to put in practice what is said by these men upon the subject, you will agree with me, that it is, as at present practised, the most difficult of all abdominal surgery. To speak of removing a gall bladder in ten minutes is absurd. One may remove a normal gall bladder, as they might remove a normal appendix, in ten minutes; but it is not in normal cases that we are called to operate. Where we open the abdomen for the relief of gall stones, or cholecystitis, or any of the other conditions that demand surgical operation on the bile tract, we find adhesions to everything, particularly if there are long-continued inflammatory changes. The gall bladder may be found to be beyond the reach of ordinary fingers, and there are other complications which render operations upon the gall bladder among the most difficult in surgery. I think that Dr. Ries has not understood Mayo's operation, as Dr. Mayo practises it. He may be correct in assuming that Dr. Mayo advocates, in his article, removal of the mucous membrane only, but in practice he removes everything except the serosa. I have attempted this removing everything but the serous coat of the gall bladder, but have uniformly found the structures so fragile that I was compelled to make a cholecystectomy. His operation, theoretically, is good, but practically it is bad. When the changes in the mucous membrane and the muscularis are sufficient to demand radical operation, I believe that cholecystectomy is called for, and not merely the removal of the interior of the gall bladder. For years in this field of surgery I have practically abandoned the old operation of suturing the gall bladder to the abdominal wall and then opening it and draining it. There is usually a condition of affairs there which contraindicates this method of treatment. In the old days when we feared infection and did not know how to deal with this class of cases, we were obliged to stitch up and then later on open up the gall bladder and clean it out, as the case demanded. Nowadays this is not indicated. The only instance where I believe that it is advisable, at the present time, is where there is a thickened condition of the mucous membrane and muscularis and an accumulation of probably infectious material in the gall bladder without stones and without suppuration. A large number of cases that call for operation, are cholecystitis chronica with a jelly-like substance in the gall bladder, without the formation of stones. In such cases we find it only necessary to stitch the gall bladder, wait a few days and then open it and wash it out a few times; and as soon as normal bile flows freely, let it heal by granulation. This, then, is the only class of cases in which I now make the old operation of cholecystectomy—opening the gall bladder and draining with the rubber tube (or gauze, which I prefer). I must dispute even so eminent an authority upon this operation as Dr. Ries in his opposition to opening the gall bladder and correcting the conditions found therein, and then dropping the gall bladder into the abdomen, as being the ideal method of treating certain forms of disease. We find, sometimes, a single stone present. On opening the abdomen in such a case and finding that there is such a condition present, it is my practice (and I have done this a large number of

times) to simply open the abdomen, remove the stone, wash out the organ with peroxide, close it with two rows of sutures, and then drop it, closing the abdomen without drainage. This is ideal gall bladder surgery; but, unfortunately not applicable to a large number of cases. Indeed, the operation is limited in its application almost as much as the old operation of stitching to the abdominal wall, which I have supplanted by ligating and extirpating the gall bladder. If the gall bladder is infected by the micro-organisms, coli communis and the staphylococcus or streptococcus, we will not get good results by treating it the same as for stones, and for such cases I believe the future operation is removal of the gall bladder without drainage, if there are not too many adhesions, nor too much leakage of pus during the operation. In our present state of knowledge, in many cases we are still obliged to resort to gauze and drainage, but I hope in the future to overcome this form of treating gall stones. There is much yet to be learned of the technique of gall bladder surgery; hence, papers like that of Dr. Ries do much good, even though we may not agree on some points

Dr. B. Merrill Ricketts (Cincinnati, O.).—I hardly expected to talk upon this subject. Dr. Ries has gone over the subject pretty thoroughly and presented it in a fair way. The question of removal of the mucosa is interesting, because he has shown us the practical impossibility of removing it alone. It is stated that we are to deal in certain ways with the gall bladder, and it is apparently taken for granted that we have normal gall bladders, and I agree to that if we have a common duct. I merely wish to speak of anomalies. It is difficult before a gall bladder is removed, to say that these ducts are present, as there are many cases in which there is practically no cystic or no common duct, and we should determine whether there is connection between the hepatic duct and the duodenum. I think that many failures are due to these anomalies. I am inclined to make the cholecystostomy in the greater number of cases. Some two or three years ago I had made a cholangiostomy. I found myself forced to make this operation. It was a case with the liver extending over the median line, and we found it necessary to go through the liver and down into the gall bladder, and take the stones out in that way, and recovery ensued in my case. I believe that it would be unfair to surgery to condemn cholecystostomy. In many of these cases we have a collection of fluid, and where we have a stone passing down into the common duct, it is necessary to reopen after the wound has healed in the abdominal wall, and in that way get drainage externally. It is a safety valve in many cases. I have a case operated on in November, where we have a fistula. I believe it is due to the presence of a silk-worm gut. There is no biliary discharge, which I would rather see in that connection. Some nine weeks after that operation, the wound failing to heal, an attempt was made to enter the bladder with a probe. It could not be done. She is now entirely well. At the operation, the gall bladder contained from sixteen to twenty-four ounces of fluid and there were forty or fifty gall stones. I merely drained, and I believe that we have done our duty and the best for the patient,. I believe that in making these cholecystostomies we should see that there is no danger

of fluid getting in behind and forming a hernia. In making the operation of cholecystostomy, if we can obliterate that space behind the gall bladder, where there is a possibility of having the space, we should do it.

Dr. E. W. Andrews (Chicago).—I did not hear the earlier part of the paper, but was much interested in the conclusions, toward the end. These conclusions are so strongly fortified with the research work of the glandular structure, that they are entitled to very great respect. They derive a deep importance from the laboratory research, rather than from the clinical results. Instead of saying anything contradictory, I should like to say a word in praise of the removal of the mucous membrane linings of the gall bladder, from the standpoint of clinical results. In the first place, Dr. Mayo's 350 cases of gall stone work include a very large number of cases, especially the late cases, in which the mucosa of the gall bladder was taken out almost in a single piece. He still speaks very favorably of this method. In my own experience, after having learned this technique from him, and also from the experience of a number of operators in Chicago, I consider that the results have been most excellent. There are many cases in which the gall bladder is found presenting some such appearance as this (illustrating): As it goes down to join the cystic, it is found that the common duct has impacted in its neck, a stone. The removal of these impacted stones from the gall bladder and the cysticus is difficult, because they form a tumor larger than the calibre of the duct, above and below it. It is impossible to get this out with any forceps; the forceps will not engage the stone. It is apt to be crushed by the forceps, or taken out by an incision in the wall. It is in this class of cases that an extirpation of the mucous membrane, so that we can get all this out with the stone enclosed, particularly in the case of a single large stone, is to be recommended. One of the steps to that operation, which facilitates it most, is a circular incision up near the fundus, circumcising it about one inch from the apex. With this incision of the outer coats, we believe that all shelling it out will be at an end. If we cut a circle around it, making a little cup, we can separate the lining to the very end, and never spill a drop of its contents. With all due respects to these experiments and investigations, I am thoroughly well pleased with the results of the operation.

Dr. Emil Ries.—The discussion has, if anything, fortified my standpoint, and I am truly grateful for it. Dr. Andrews has emphasized exactly what I have said, that the operations have been done of late, which is too short a time for the consequence which I am anticipating to show. As soon as pathology shows us the danger lurking in the method, it ought to be enough to make us think of abandoning the method, especially when we have a method which is very little more difficult and takes a very little more time. Dr. Andrews says to circumcise the mucous membrane and peal it out. In this way, you may get a tear and the contents may escape. If you have a stone in the cystic duct, it is easy to remove it if you take out the cystic duct with the gall bladder. You simply put on an artery forceps, take out the duct and you have the whole contents. As to Dr. Lan-

phear's remarks, he says it is almost absurd to say that the gall bladder can be removed in ten minutes, and mentions cases where there are adhesions all around. I only said that the gall bladder could be removed in ten minutes, occasionally. Take a case of hydrops of the gall bladder with occlusion of the cystic duct. I operated on such a case three years ago. There were no adhesions to the structures around and I took it out as easily as you can pull a polypus out of the nose. This was one of the occasional cases in which the operation can be done in ten minutes.

In the case to which I am referring here, the operation took over an hour. Dr. Lanphear supposes that in Dr. Mayo's cases, as I suspected, more than the mucous membrane would be removed. Let us understand that in this case which I report, the glands went down into the serous coat. I do not claim that in every case of gall bladder that is removed by the Mayo method, there exist such glands, and I have examined a number of gall bladders. The results of the Mayo operation are good in cases where these do not exist, but you do not know when they do exist.

As to the formation of fistulae and disinfection by peroxide, I must say I have no confidence in it.

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A Powerful Diuretic.—Although the materia medica abounds in drugs having a diuretic action, but few of them can be considered pure diuretics the majority producing their effect in an indirect manner. Among the pure diuretics theobromine has been extensively employed in late years. in the form of the salicylate. This preparation, however, is not free from irritating effect upon the gastro-intestinal tract owing to the contained salicylic acid, and for this reason Dr. Impens, of Brussels, after considerable experimentation succeeded in producing a double salt of theobromine sodium and acetate of sodium, to which the name agurin has been given. This preparation has been made the subject of extensive clinical studies in the clinics of Professors von Litten of Berlin, Destree of Brussels, Buchwald of Breslau, and von Ziemssen of Munich. The results of these tests have shown that in the dropsy of cardiac disease, agurin is a prompt and reliable diuretic free from any irritating effects upon the digestive organs or kidneys, while in some cases of ascites due to cirrhosis of the liver and in cases of edema from chronic interstitial nephritis, without marked destruction of the renal epithelium, the drug acted efficiently. The diuretic value of agurin is further confirmed by some conclusions presented by Dr. A. C. Barnes (Medical Record, May 24, 1902) in a discussion before the American Therapeutic Society, according to which the acetates form double salts with the bromine which are soluble and are powerful diuretics, of which agurin is a type.

Fortnightly's Post-Graduate Course

In this department we will present a series of Practical Papers for the General Practitioner, written expressly for this magazine by the leading Medical Writers of the Twentieth Century.

DISEASES OF THE LUNGS AND PLEURA.*

A Series of Papers written expressly for this magazine, by

BY ALBERT ABRAMS, A. M., M. D. (Heidelberg),

SAN FRANCISCO, CAL.

Consulting Physician for Diseases of the Chest, Mt. Zion Hospital and the French Hospital

CONTINUED FROM PAGE 314.]

ASTHMA.

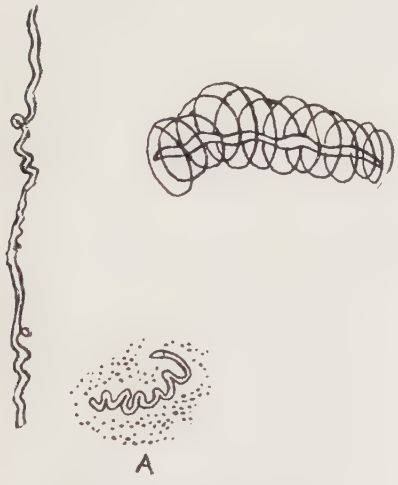
Symptoms.—If we regard this affection as a distinct neurosis of the respiratory apparatus, it may be defined as a series of paroxysmal dyspneic attacks in which no organic disease can be recognized in its causation. Whatever the etiologic factor, three conditions are essential: 1. Diminished resistance of the center of respiration. 2. Asthmogenic points somewhere. 3. Irritation of the asthmogenic points. There are numerous conditions, the number of which is rapidly multiplying, which are operative in etiology, and which, when corrected, lead to the cure of asthma. To relegate asthma to the category of the neuroses is a simple task, but to do so, will deprive many sufferers from ultimate recovery. The trend of modern medicine is to deny the existence of functional diseases as mere entities, but to endow them with distinguishing attributes. With our improved microscopic technique, functional affections are shown to possess a distinct anatomico-pathologic substratum. Epilepsy, which is a classic neurosis is not necessarily idiopathic and the recognition of an etiologic factor has in many instances rescued sufferers from chronic invalidism.

The Asthmatic Paroxysm.—In about half the cases an approaching attack is manifested by premonitory signs (asthmatic aura) which may consist of buoyancy, depression, headache, flatulency, drowsiness, vasomotor disturbances, etc. The attack usually occurs at night, although if the sufferer lies down during the day, especially after a heavy meal, he is awakened by a feeling of chest constriction, cough and wheezing sounds in his chest. Soon the dyspnea becomes accentuated and the patient sits up in bed and leans forward, a posture which favors the input of air into his lungs. Inspiration becomes shorter and shorter, and expiration prolonged. The wheezing sounds become more pronounced, and may be heard at some distance from the patient. Soon the patient becomes exhausted,

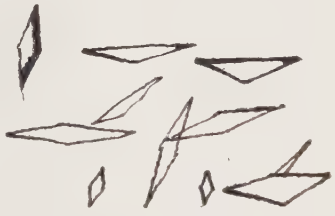
* The first paper of this series, on "Cough," appeared in our issue of August 25th, 1900, and the following have appeared in their order: "Pulmonary Atelectasis," "Relation of Respiratory Diseases to the Circulatory Apparatus and the Nervous System," "X-Ray Examination in Diseases of the Chest," "General Therapeutics of Pulmonary Diseases."

and the paroxysms remit in severity. The cough, previously ineffective in dislodging sputum, now yields a small amount of semi-transparent mucus, which looks not unlike boiled tapioca. A paroxysm lasts from two to six hours, as a rule. I recall the case of a boy whose paroxysm was of two days' duration, despite complete anesthetization with chloroform. As a rule, when the patient awakens breathing is unimpaired, although it may remain impaired for several days, as though there were only a remission in the paroxysm. Still others, never seen to lose the constricted chest feeling, together with a constant cough, which rarely yields sputum.

The Sputum.—In making a microscopic examination of the sputum in all diseases of the respiratory apparatus, it should be carefully spread ut on a large plate, the background of which is painted black. The sputa o



SPIRALS OF CURSCHMANN.
Fig. A.—Spirals natural size.



CHARCOT-LEYDEN CRYSTALS

n asthma furnish the same reliable evidence of the disease as do the tubercle bacilli in phthisis, and no diagnosis of asthma can be regarded as final until certain specific elements are determined under the microscope. These elements are the Charcot-Leyden crystals, eosinophile cells and the spirals of Curschmann. The Charcot-Leyden crystals are found in the tough sago-like pellets and are pointed octahedra. Very often the crystals are so small that an immersion lens may be necessary for their detection. The crystals multiply after the sputum is exposed to the air. The eosinophile cells may form 65 per cent of the leucocytes in the sputum, and 14 per cent in the blood in lieu of the normal, viz., 2-4 per cent. In the blood this high percentage of eosinophiles cells may persist after an asthmatic attack. The spirals of Curschmann are frequently found in this as well as in other pulmonary affections. They are spiral threads of mucin, corkscrew in shape or with a central thread situated within a spiral coil.

By pressing melted wax through a fine hole, the spirals of Curschmann are imitated, and their production is evidently due to the pressure of mucus through contracted bronchioles.

Physical Signs.—They give practically the evidence of an acute emphysema, which actually exists. The percussion note is drum-like; the superficial areas of cardiac hepatic and splenic dulness become diminished in size, or even obliterated by the distended lungs. Auscultation shows no respiratory murmur but, in its place, sibilant and sonorous rhonchi are heard, which appear and disappear, and shift about the chest in a most disorderly sort of way. The chest is fixed in a position of extreme inspiration, and little or no movement of the chest wall is perceptible. If chest movement is perceptible, the normal rhythm is reversed; expiration being longer than inspiration. Inspiration may consist of a mere gasp, whereas expiration is a prolonged gasp. The interparoxsymal periods may show no characteristic physical signs beyond a continuance of the emphysema. The pulse is slow and weak, and there is no elevation of temperature, unless bronchitis exists as a complication. The urine after an attack is copious, of low specific gravity and contains an excess of toxic products. The increased formation of the latter during the night is accepted by some as an explanation why the paroxysm predominate at night.

Differential Diagnosis.—There are many affections which may be confounded with asthma. We must remember that in asthma the following signs are characteristic : 1. The specific elements in the sputum. 2 Expiratory dyspnea. 3. Rales and the evidence of acute emphysema. In spasm of the glottis and other laryngeal affections, dyspnea is inspiratory. The larynx shows excursions during respiration. The voice is altered, the epigastrium retracted during inspiration, and there is no acute emphysema nor rales. The laryngoscope may be necessary in diagnosis. When air is prevented from entering the lungs (as in affections of the upper air passages), inspiration is accentuated and prolonged, whereas when the exit of air from the lungs is difficult (as in asthma, emphysema and bronchitis), expiration is reflexly accentuated and prolonged (law of Breuer).

Cardiac Asthma.—Signs of cardiac and arterial disease. Dyspnea is equally inspiratory and expiratory. No rales on auscultation unless complicated by bronchitis or lung edema. Emphysema slight edematous expiration. Cardiac medication (hypodermic injection of strcyhnin and the use of suprarenal gland) will inhibit paroxysm, and future attacks may be prevented by caffein, digitalis and other cardio-tonics.

Renal Affections (asthma uremicum).—No typic expiratory dyspnea nor emphysema. Symptoms of uremia (headache, emesis, pruritus, spasms, etc.). In the sputum an increase of urea is found. Diaphoresis may inhibit the attack.

Hay Asthma.——Begins in the summer months with pronounced nasal symptoms (sneezing, frontal headache and fever).

Affections of the Nervous System.—Hysteria and many cerebral affections often give rise to pseudo-asthma and many neuroses of the lungs may occasion rapid (tachypula) or slow respirations (splanopnea).

Emphysema and Chronic Bronchitis when marked by acute exacerbations may develop attacks of dyspnea resembling asthma, but here we must be guided by previous symptoms and the history of the case.

Thymic Asthma.—Enlargement of this gland by pressure on the trachea may cause dyspnea, or if upon the nerve trunks, a veritable asthma or spasm of the glottis. In thymus enlargement percussion shows an area of dulness along left sternal border extending from the second to the fourth ribs.

Aneurisms, enlarged glands and goitre by pressure on contiguous structures may simulate an asthmatic paroxysm.

In spasm of the diaphragm, there are spasmodic expulsive efforts associated with singultus.

Theories of Cause.—1. Spasm of the bronchial walls. This is a reasonable theory, insomuch as circular fibres exist in the bronchial wall, and when irritated narrowing of the bronchial tubes occurs.

2. Paralysis of the bronchial muscles leading to loss of expiratory power (Walshe).

3. A bulbar neurosis consisting of an excessive reflex irritability of the center of respiration (See).

4. A spasm of the diaphragm (Wintrich).

5. A spasm of the inspiratory muscles (Budd).

6. A microbe inflammation of the bronchial tree (Berkart).

7. Hyperemia of the bronchial mucosa analogous to urticaria (Clark).

8. The asthma crystals found in the sputum of asthmatics irritate the peripheral ends of the vagus fibres and induce reflex spasm of the bronchial musculature (Leyden).

9. Swelling of the bronchial mucosa as demonstrated by tracheoscopic examination (Stoerk).

10. An exudative bronchiolitis which induces expiratory dyspnea (Curschmann).

11. Epilepsy of the lungs (Trousseau).

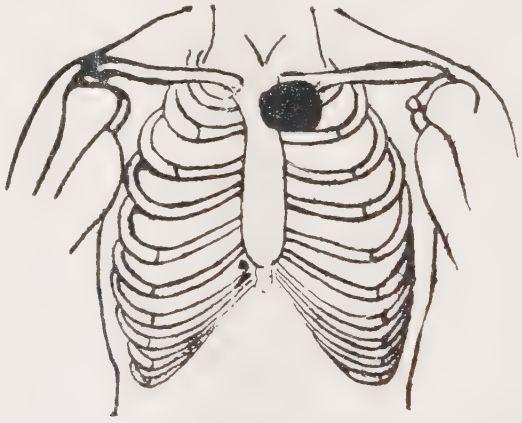
Among the more recent theorists Kingscote contends that a dilated right heart ventricle predisposes to and maintains a condition of chronic asthma. He regards asthma as a mere symptom. He assumes that an asthmatic paroxysm occurring specially at night is associated with the recumbent posture, the dilated heart at this time striking the vagi, which lie immediately behind the heart on the bony spine. The theory of Haig supposes that asthma has some intimate relation to gout; that the accumulation of uric acid in the blood while coursing through the bronchi and lungs irritates the peripheral fibres of the vagi. The Roentgen rays have been instrumental in exploding some of these theories. I have witnessed many paroxysms by aid of the rays, and while the diaphragm is retarded in its excursions, it is not sufficiently immobile to accept the theory of diaphragmatic spasm. Again, the heart does not approximate the spine in the recumbent posture to the extent of obliterating the triangular space between the heart and the spine, hence, I cannot accept the theory of

Kingscote. My own theory is based on the recent investigations of Aufrecht, who demonstrated the existence of longitudinal as well as circular bronchial muscles, aided by my discovery of the lung reflexes of contraction and dilatation. I contend that the theory of asthma must be based not alone on a spasm of the circular fibres of the bronchi, but inability on the part of the weaker longitudinal fibres to expel the residual air impros-

A Pleximeter of felt for eliciting lung reflex of contraction.
B Wooden mallet for striking.

ened by the spasm of the circular fibres. This action has its analogue in the bladder musculature when, in consequence of a spasm of the sphincter vesicae, the weak detensor or vesicae cannot expel the urine and ischuria spastica results.

In a previous chapter, I have described the lung reflex of dilatation. Here, I will describe a new reflex, the lung reflex of contraction. If by

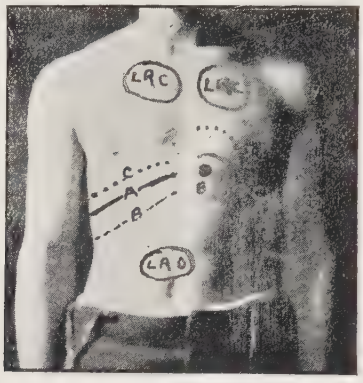


Area of dulness after inhalation of amyl nitrite due to lung collapse.

aid of a pleximeter of felt the sternum is struck a series of sharp blows by means of a large wooden mallet, adjacent to the blow struck, a circumscribed area of lung dulness may be obtained on percussion. Circumscribed areas of dulness may be obtained elsewhere over the chest, specially in regions contiguous to the sternum and spine. Striking the epigastrium will cause an immediate disappearance of the dulness, thus obtained. This reflex when observed with the X-rays traversing the chest is a most inter-

esting study. After the blow is struck, the area becomes gradually dark, showing that the air has been expelled from the lungs, whereas in a few seconds, it again becomes bright. This reflex speaks for the existence of longitudinal bronchial muscles. Again, we know the temporary efficacy of amyl nitrite inhalations in asthma. I have observed that after inhalation of this drug an area of dulness may be obtained in normal individuals measuring about 4 cm. in the transverse and 3 cm. in the vertical diameter, bounded by the mid sternal line, the left clavicle in the left second rib.

Very often this dull area involves the entire manubrium sterni extending to the right as well as to the left side. Another fact noted with reference to this dulness is, that it is almost never reproduced after a second inhalation of the drug. Other dull areas may be evoked in other por-



THE LUNG REFLEXES OF CONTRACTION AND DILATATION.

L R C, region for inducing the lung reflex of contraction. L R D, region for inducing lung reflex of dilatation. A, area of heart dulness and upper liver border respectively. B, area of heart and upper liver border after percussing L R D. C, area of heart and upper liver border after forcible percussion of L R C.

tions of the chest in some persons, but the area previously referred to is almost constant. These areas of dulness disappear at once by tapping the epigastrium, which provokes counter reflex of contraction. Now, I contend that the amyl nitrite test yields clinical evidence of the existence of longitudinal bronchial musculature, and that the relief of an asthmatic paroxysm is actually dependent on the contraction of the longitudinal no longer antagonized by the circular bronchial muscle fibres.

Etiologic Diagnosis.—Mention will be made of causes which are reflex and dependent on intoxication. The Nose.—A study of 80 cases of asthma by Bosworth shows, that nasal asthma is made up of three factors: 1. A neurotic habit. 2. Nasal disease. 3. Atmospheric conditions. The nasal disorder outweighs all.

The nasal anomaly may consist in a diffuse catarrh associated with some interference in nasal breathing, the presence of polypi, hypertrophic

rhinitis, deflection of the septum, etc. An asthma of nasal origin should yield to treatment directed toward the nasal anomaly. Not unfrequently, the introduction into the nose of a small probe may detect some sensitive spot (asthmogenic point), which, when touched yields a sensation not unlike that felt when the dentist touches an exposed nerve in a carious tooth. These asthmogenic points are common along the distribution of the ethmoidal nerve. A spray of cocaine introduced into the nose may inhibit an asthmatic paroxysm, if, of nasal genesis. I have often observed, that, if the nose is firmly packed with cotton, one may elicit an asthmatic attack, provided the patient is a sufferer from nasal asthma. Previous cocainization of the nasal mucosa, however, will render this maneuver inoperative.

Pharyngo-laryngeal Asthma.—The asthmogenic point may be resident somewhere in the pharynx or larynx, and may consist of enlarged tonsils, adenoids, diffused catarrh, polypi, etc. In diagnosis the probe may detect an asthmogenic point and cocainization of the suspected area during a paroxysm may inhibit the latter.

Bronchial Asthma.—If the asthma is dependent on bronchial catarrh, we observe in the interparoxysmal period all the symptoms of bronchitis. It is, however, during an asthmatic paroxysm difficult to determine which of the rales heard during auscultation are due to bronchitis, and which to bronchial spasm. For determining this question, the inhalation of nitrite of amyl carried to its physiologic effects, has been of real service to me. Such inhalation by releasing temporarily the bronchial spasm will cause rales due to the later to disappear, whereas the rales of bronchitis will persist.

Dyspeptic Asthma.—There are many individuals in whom asthma is provoked by indigestion. In such instances, symptoms of gastric indigestion may be present or absent. A systemic chemic analysis of the stomach contents should be made even though the stomach is not questioned as a possible etiologic factor. No doubt many practitioners have witnessed the inhibition of an attack of asthma following lavage of the stomach. The presence of intestinal worms must be borne in mind as a factor in etiology (asthma verminosum). Cases of urticarial asthma due to mussel poisoning have been reported, and it is likely that in these cases there is a like urticarial enanthema of the bronchial mucosa. It has also been noted by Von Noorden that persons who have suffered in their youth from chronic cutaneous affections are frequently sufferers from asthma. Hyperidrosis, specially of the feet may be associated with asthma, and its correction may lead to a cure of the disease.

Uterine Asthma.—Gynecologists have recognized anomalies of the uterus and peri and para-uterine affections as provocative elements in asthma and, by appropriate treatment, have cured the asthma.

Malarial Asthma.—The relation existing between malaria and asthma is often evidenced by the fact that quinine may arrest the paroxysms of asthma.

Sexual Asthma.—Peyer and Freud have established the well-recognized fact, that affections of the male sexual apparatus (spermatorrhea, self-buse and impotency) may induce asthma. They further observed, that attacks may follow coitus or sexual excitement.

Cardiac Asthma.—It must not be assumed that asthma of cardiac genesis is necessarily associated with vitium cordis, on the contrary, it may be present with an intact heart, and need only be an expression of a functional reflex neurosis with a neurasthenic or hysteric basis. Such cases present an asthmatic aura consisting of heart palpitation, precardial fear, cold extremities, etc. There are certain affections which predispose to asthma, notably, pertussis, measles and slight bronchitis in children. Here we must assume irritability of the vagus endings or enlarged bronchial glands compressing the vagi.

Renal Asthma.—This is a representative type of asthma dependent on intoxication. The condition is, however, not a real asthma, but a dyspneic condition which may be one of the earliest symptoms of uremia. In this so-called form of asthma, we have associate symptoms which render the diagnosis easy, viz., high arterial tension, accentuation of the second sound of the heart, albuminuria casts, dropsy, etc. Not unfrequently in renal dyspnea, I have had recourse to the hypodermatic injection of pilocarpin, which will rapidly relieve the dyspnea dependent on renal intoxication.

Other forms of asthma have been described, such as hysteric, neurasthenic, traumatic and tooth asthma. Suggestion as a factor often casts discredit on the etiology, just the same as it does on any other neurosis. The operations of the gynecologist and rhinologist, and the treatment of the neurologist act in many instances by the mere suggestion which is thrown out by the therapeutic maneuvers.

Course.—In 31 per cent of the cases tabulated by Salter, the disease appeared during the first desennium and, in 37 per cent of the cases, he regarded the disease as hereditary. The more chronic the affection the greater the likelihood of complications, such as cardiac dilatation and emphysema, and the less certainty there is of cure. Appearing in early life the chance for cure depends on the correction of conditions which induce the asthma habit. It is a fact that the resistance of the nervous system determines in a great measure the frequency and severity of asthmatic paroxysms. The question of will is as potent in inhibiting an attack of asthma as it is in controlling the reflex of coughing and sneezing, but it is only unfortunately in a limited number of cases that, unless aided by some suggestive therapeutic maneuver, and it matters little what the latter may consist of, that will is operative in controlling an attack of asthma.

[TO BE CONTINUED]

THE Board of Health of New York City has made contagious ophthalmia a notifiable disease. This action has been taken in view of the wide prevalence of the disease prevailing among school children.

Monographs on Nevous Diseases

With Especial Reference to Hygiene, Nursing and Therapeutics.

Reynaud's Disease.

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THIS is one of the tropho-neuroses principally involving the vasomotor nervous system. The cause of Reynaud's disease is unknown, except that heredity plays a partial role in etiology, and that fright or shock seems to be a predisposing factor to the active invasion of the morbid state. The symptoms are general and local. The general symptoms are extreme nervousness, insomnia and mental anxiety. The pulse is running and feeble, the skin leaky and cardiac action arhythmic. The patient suffers considerably from palpitation of the heart and from a morbid introspection in which he becomes ensconced by the observation of his local disability producing a variety of phobias, and as I have seen rarely a tendency to suicidal impulse. The local conditions are coldness, cyanosis, vascular dilatation, and in the worst cases, dry gangrene of one of the digits, of an extremity so affected. A peculiarity of the local condition is that there are great remissions and accessions of the symptom complex noted. This is favorably influenced by posture of the part, since when the extremity is held pendant, there is an exaggeration of symptoms largely due to stasis of venous blood contributed to by gravity. A trauma of an affected extremity may cause serious inflammatory processes in the tissues from which emboli may be carried to remote parts of the body, as of the brain producing central paralysis. It is astonishing to what degree apparent necrosis of the soft tissues of a finger, for example, may entirely disappear by natural or therapeutic means at our command. Exacerbations of the local difficulty are more frequent in cold weather and, indeed, the winter months are the predisposing causes of exciting the cyanosis that had become bettered.

Duration of Reynaud's disease is indefinite. It may last for years, the patient finally succumbing to a complicating affection as pneumonia.

Diagnosis cannot well be confounded with any other malady. It should be remembered that a nerve injury may cause more or less cyanosis in any extremity; or that central lesions producing hemiplegia, for example, may simulate this disease in question by the cyanosis produced in the paralyzed extremity, Hysterical disorders sometimes simulate the local condition, the intermittent claudications may somewhat resemble angioneurotic edema; but in the latter, the intensity of cyanosis is absent or very slight.

Prognosis is uncertain; many cases if properly treated, regain considerable degree of health and are able to live useful lives. There may at any time, come a sudden relapse and local gangerne set in. The *treatment* consists in the use of cardiac tonics; general hygienic measures supportive in end; quiet life for the individual; while for the local condition, protection from injury and maintaining proper temperature, if necessary, by enveloping the extremity in raw cotton is the great desideratum. The use of nitroglycerine is desirable in cases where there is any danger of local gangrene developing. In this case, the drug should be pushed to the full physiological limit. Should the line of demarcation occur in a finger that has become "deadened," surgical interference should be had (amputation) as a dernier resort.

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Surgery of Thyroid Gland.—(Abstract of a paper read before Ohio State Medical Society, Toledo, O., May 27, 28 and 29. Illustrated by fifty lantern slides, by B. Merrill Ricketts, M.D., Cincinnati.)—After reviewing the human and comparative anatomy (microscopical and topographical) many assigned causes are given, the most common being heredity, acute infectious diseases and malignant neoplasms. All vertebrates are subject to the same laws concerning disease and abnormalities of the thyroid gland. Nephritis from any cause is a common cause, and when it is a cause the growth is of rapid development. Thyroiditis is rare and when present follows an operation or injury. Of the parasites, echinococcus and cysterous are rare causes, while the bacilli of pneumonia, typhoid and tuberculosis and micro-organisms of a selective type are more frequent. The results of disease of the thyroid gland are insanity, infection, hemorrhage, dyspnea and rupture. Death may be due to any one or all of these causes. The thyroid gland is a subject to nearly all forms of benign and malignant neoplasms. The treatment is classified as: 1. Medicative. 2. Operative. Medicative is of but little avail except to palliate. Extracts will benefit but not cure. They will lessen the size of the neoplasm. Only commendable in a certain class of cases as a palliative measure. Other remedies are useless. Fresh glands on ice do not produce toxic effects, and best results are in chlorotic patients when raw sheep's gland is used. Operative.—Dyspnea stridor, rapid growth, dysphagia, deformity, exophthalmic goitre, malignancy and emaciation one or all indicate operation. Removal of all or a part of the gland should be given preference to the injection of iodine, zinc, iodoform, alcohol or any other solution. Excision is more radical, safer, and requires less time for recovery. Then, too, none of the neoplasm remains to be the seat of new growth, malignant or benign. All forms of new growth of the thyroid gland should be removed. Even in cases of exophthalmic goitre it should be operated. All operative experience leads to this conclusion. Great relief has been given in exophthalmic goitre. Method.—If the disease is confined to one of two lobes without an isthmus the diseased lobe may be completely removed without much likelihood of recurrence of the growth If an

isthmus be present the other gland may become involved. It is probable that the disease being confined to one lobe may be due to the absence of the isthmus. So far as possible the presence or absence of the second lobe should be determined at time of operation. If the second lobe cannot be found the entire diseased lobe should not be removed unless it be malignant. The probabilities are that one or more supernumary lobes are more frequently present in persons possessing but one normal lobe, no matter where the abnormal ones may be located. Supernumary glands are more frequent upon the left side. The presence of supernumary lobes may account for the absence of ill effects in those persons who have been subjected to the removal of an entire right or left gland. Division of the capsule will permit of a thyroid gland being enucleated with ease and with the loss of but little blood. The rapid pulse following removal of a thyroid gland is probably due to the rapid absorption of the thyroidine in the process of repair. The pulse will some time become much more rapid for forty-eight to one hundred hours, reaching at times 160 per minute, but it will at the end of this time subside to 80 or 90. If there is any pathologic tissue that should be excised it is that of the thyroid gland. There are none of the major operations in which the mortality is less.

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The Bell Boy.—One of the recent inventions destined to make the doctor's work go a bit more smoothly is an automatic office boy, while it has not a large vocabulary it is capable of telling patients all important facts as to your movements, and it does not talk too much, nor is it absent from the office when most wanted. City physicians are very generally adopting this useful little assistant, and, while those in smaller places take more slowly to things which are new, from its very nature it is bound to make its usefulness as evident to the country doctor as it is to his brother in the city.

For Local Treatment of Leucorrhea and Gonorrheal Vaginitis.—

℞ Cerevisine (saccharomyces cerevisae..... 3 ounces
Glycerine of starch (cold)..... 2 ounces

Sig.: Make into a paste.

This is recommended as a specific for persistent vaginal discharges (especially old standing cases), by Dr. Chapelle of Paris, and has proved almost universally successful and is now very largely used to destroy by phagocytosis pathogenic germs which invade the vagina. A portion of the paste made up in a ball about the size of a walnut, should be placed in the vagina, well up against the cervix and retained in position by a tampon of absorbent cotton. The treatment is perfectly harmless and if persisted in for a week or ten days, will give marked beneficial results which will be maintained, especially if the patient is sustained by liberal diet and tonics, such as phospho-glycerate of lime wine. Cerevisine is a pure form of the yeast plant, dessicated at a low temperature.

MEDICAL MISCELLANY

The Preventive and Curative Treatment of Hay Fever.- It is difficult to conceive of a more miserable creature in all the world than the hay-fever sufferer. The attack not only makes him exceedingly uncomfortable, but renders him unfit for business or the pleasures of society. Aside from the annoying and continual discharge from the nostrils, the eyes are suffused, the secretion of tears is increased, the nasal passages are obstructed, and an intense burning sensation is experienced; the latter is not entirely limited to the mucous membranes, but not infrequently involves the cutaneous surfaces of the forehead, cheeks and nose. Violent attacks of sneezing occur which are so prolonged, at times, as to completely exhaust the sufferer and bring on severe headache. The condition is one of utter wretchedness, and there is extreme malaise, amounting occasionally to complete prostration. The lightest duties become irksome tasks, and many an active, industrious and useful member of society is completely incapacitated while "the season" lasts. For years some convenient means of relief has been sought. Change of scene does very well for those, unfettered by business, who can afford to travel. But to many very worthy people a change of scene is out of the question. Naturally the greater number of the afflicted are accustomed to look to the medical profession for the health they, but who has the medical profession actually accomplished for the permanent relief of the sufferer or the cure of his ailment? There is scarcely a sedative, astringent, tonic, nervine, or alterative drug in the materia medica that has not enjoyed an evanescent reputation as a useful remedy in the treatment of hay fever. Until the discovery of adrenalin, each had been as much of a disappointment as its predecessor and none had afforded more than the merest temporary relief. There is increasing evidence that adrenalin fully meets the indications as a remedial agent in hay fever. It controls the nasal discharge, allays congestion of the mucous membranes, and in that manner reduces the swelling of the turbinal tissues. As the nasal obstruction disappears, natural breathing is materially aided and the ungovernable desire to sneeze is mitigated. In short, a season of comparative comfort takes the place of the former condition of distress and unrest. Adrenalin blanches the mucous membrane by vigorously contracting the capillaries, and thus reduces local turgescence. It strengthens the heart and overcomes the sense of malaise so frequently a prominent feature in cases of long standing. In the treatment of hay fever the solution of adrenalin chloride should be used. This preparation is supplied in the strength of one part adrenalin chloride to one-thousand parts normal saline solution, and is preserved by the addition of 0.5 per cent choretone. The 1-1000 solution should be diluted by the addition of four parts normal salt solution, and sprayed into the nares with a "cocaine" atomizer. In the office, the 1-1000 solution may be applied in full strength. A small pledget of cotton is wrapped about the end of an applicator and moistened with a few drops of the solution (1:1000). The speculum is then introduced, the patient's head is tilted backward in a position most favorable for thorough illumination by the head-mirror, and the visible portions of the lower and middle turbinate bodies, and the septum, are carefully and thoroughly brushed. The same application is made to the other nostril, when usually relief follows, in a few moments. Should the benefit prove only partial, the 1-5000 solution may now be sprayed into both nares, and a few drops instilled into

both eyes. The effect of this treatment may be expected to last for several hours. Indeed some physicians report that it is necessary to make but one thorough application daily to afford complete relief. It is also recommended that solution adrenalin chloride be administered internally in 5 to 10-drop doses, beginning ten days to two weeks prior to the expected attack. In explanation of the beneficial effect of the drug when used in this manner, the suggestion has been made that hay fever is essentially a neurosis, characterized by a local vasomotor paralysis, affecting the blood supply of the eyes, nose, face and pharynx, and occasionally of the laryngeal and bronchial mucous membranes. Adrenalin overcomes this condition, restores the normal balance in the local blood pressure, and thus aids in bringing about a cure. The profession is to be congratulated that it has at last an agent that, if not a specific, fulfills the therapeutic indications more completely and with greater satisfaction than any other remedial measure recorded in the history of medicine.

Protection for Practitioners.—The medical profession, in seeking protection against suits for damages in civil malpractice, should look carefully into the methods of doing business by the companies now in this field. It is as necessary that such risks should be graded, as it is for life insurance companies to grade their risks. The first element of care upon the part of the companies thus employed, should be to eliminate all excess risks that must of necessity grow out of incompetent work upon the part of persons illegitimately engaged in the practice. We have specific reference to advertising quacks and charlatans. They notoriously advertise to do that which the competent medical man approaches with some hesitancy; they promise cures under all and any conditions, and in most cases are the exponents of dense ignorance where wisdom and skill are the prerequisites. In consequence they will be the most ready to avail themselves of a kind of protection that will relieve them of any responsibility. It is, therefore, undesirable and unfair to mix up with them in this field of work. Unfair, because the money paid into the company by the legitimate practitioner is, in part, used to defend the quack, unpleasant, because to be, in any way, recorded with them is odorous. In the second place, it goes without argument that the competent practitioner desires but one thing at the hands of these companies, viz., a defense that will establish the fact of competent services given in the light of the best known methods to date. Ignorance, unskillfulness and negligence are elements that do not worry the competent practitioner, hence, he has but one thing before him, that is to establish fully before the court that fact, and should an unduly sympathetic jury decide in favor of the plaintiff, the case must be carried on to the higher courts, where no such influences can be made effective, where the case will be adjudicated on its merits, thus verifying past statistics to the effect that very nearly all such cases go finally in favor of the defendant. The normal conclusion, therefore, is that a company proposing to protect the medical profession in this particular field, will have to omit the quack, and refrain from offering to pay judgments. The latter is pernicious in all its bearings. The careful and consciencious physician or surgeon need have no fear of a judgement, the offer to pay the same written in a contract is an invitation for the unprincipled patient and briefless lawyer to attack him, and thus put him in the humiliating position of having to defend himself, knowing all the time that it was this item alone that exposed him.